

SEQUENCE LISTING

<110> DYAX CORP.

<120> MUCIN-1 Specific Binding Members and Methods of Use Thereof

<130> DYX-015.1 US, DYX-015.1 PCT

<140> not yet assigned

<141> 2001-03-30

<150> US 09/538,913

<151> 2000-03-30

<160> 112

<170> PatentIn version 3.0

<210> 1

<211> 113

<212> PRT

<213> synthetic

<400> 1

Glu Ile Val Leu Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
20 25 30

Asn Gly Tyr Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Ser Gly Ser His Arg Ala Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Val Ser Gly Thr Asp Phe Thr Leu Arg Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Gly
85 90 95

Leu Gln Ser Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
100 105 110

Arg

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 atctcctgca ggtctagtca gagcctcctg catagtaatg gatacaccta tttggattgg 120
 tacctgcaga agccagggca gtctccacag ctctgatct attcgggttc tcatcggggc 180
 tccgggggtcc ctgacagggt cagtggcagt gtatcaggca cagattttac actgagaatc 240
 agcagagtgg aggctgagga tgttgaggatt tattactgca tgcagggtct acagagtcca 300
 ttcactttcg gccctgggac caaagtggat atcaaacga 339

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 <211> 121
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 <213> synthetic

<400> 3
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 1 5 10 15
 Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser Asn
 20 25 30
 Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45
 Ser Gly Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60
 Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
 65 70 75 80
 Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Asp Tyr Trp Gly

100 105 110

Gln Gly Thr Leu Val Thr Val Ser Ser
115 120

<210> 4
<211> 363
<212> DNA
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<400> 4
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ccaggaagg ggctggagtg ggtctcaggt attagtggta gtggtggcag cacatactac 180
gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
ctgcaaataga acagcctgag agccgaggac acggccgtat attattgtgc gaaacatacc 300
ggggggggcg tttgggaccc cattgactac tggggccagg gaaccctggc caccgtctca 360
agc 363

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<211> 381
<212> PRT
<213> synthetic

<400> 5

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1 5 10 15
Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser Asn
20 25 30
Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35 40 45
Ser Gly Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50 55 60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95
 Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Asp Tyr Trp Gly
 100 105 110
 Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Ala Leu Glu Ile
 115 120 125
 Val Leu Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro
 130 135 140
 Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser Asn Gly
 145 150 155 160
 Tyr Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln
 165 170 175
 Leu Leu Ile Tyr Ser Gly Ser His Arg Ala Ser Gly Val Pro Asp Arg
 180 185 190
 Phe Ser Gly Ser Val Ser Gly Thr Asp Phe Thr Leu Arg Ile Ser Arg
 195 200 205
 Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Gly Leu Gln
 210 215 220
 Ser Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys Arg Gly
 225 230 235 240
 Gly Gly Ser Gly Gly Gly Ala Leu Ala Pro Thr Ser Ser Ser Thr Lys
 245 250 255
 Lys Thr Gln Leu Gln Leu Glu His Leu Leu Leu Asp Leu Gln Met Ile
 260 265 270
 Leu Asn Gly Ile Asn Asn Tyr Lys Asn Pro Lys Leu Thr Arg Met Leu
 275 280 285
 Thr Phe Lys Phe Tyr Met Pro Lys Lys Ala Thr Glu Leu Lys His Leu
 290 295 300
 Gln Cys Leu Glu Glu Glu Leu Lys Pro Leu Glu Glu Val Leu Asn Leu
 305 310 315 320
 Ala Gln Ser Lys Asn Phe His Leu Arg Pro Arg Asp Leu Ile Ser Asn

	325		330		335
Ile Asn Val	Ile Val Leu Glu Leu Lys Gly Ser Glu Thr Thr Phe Met				
340		345		350	
Cys Glu Tyr Ala Asp Glu Thr Ala Thr Ile Val Glu Phe Leu Asn Arg					
355	360		365		
Trp Ile Thr Phe Cys Gln Ser Ile Ile Ser Thr Leu Thr					
370	375		380		

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 <212> DNA
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 ccaggggaagg ggctggagtg ggtctcaggt attagtggta gtggtggcag cacatactac 180
 gcagactccg tgaagggccg gttcaccatc tccagagaca attccaagaa cacgctgtat 240
 ctgcaaatga acagcctgag agccgaggac acggccgtat attattgtgc gaaacatacc 300
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 agcggaggcg gtgcacttga aattgtgctg actcagtctc cactctccct gcccgtcacc 420
 cctggagagc cggcctccat ctctgcagg tctagtcaga gcctcctgca tagtaatgga 480
 tacacctatt tggattggta cctgcagaag ccagggcagc ctccacagct cctgatctat 540
 tcgggttctc atcgggcctc cggggtcctc gacaggttca gtggcagtg atcaggcaca 600
 gattttacac tgagaatcag cagagtggag gctgaggatg ttggagttta ttactgcatg 660
 cagggcttac agagtccatt cactttcggc cctgggacca aagtggatat caaacgaggg 720
 ggtggatcag gcggcggggc cctagcacct acttcaagtt ctacaaagaa aacacagcta 780
 caactggagc atttactgct ggatttacag atgattttga atggaattaa taattacaag 840
 aatcccaaac tcaccaggat gctcacattt aagttttaca tgcccaagaa ggccacagaa 900

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ctgaaacatc ttcagtgtct agaagaagaa ctcaaacctc tggaggaagt gctaaattta    960
gctcaaagca aaaactttca cttaagaccc agggacttaa tcagcaatat caacgtaata    1020
gttctggaac taaagggatc tgaaacaaca ttcatgtgtg aatatgctga tgagacagca    1080
accattgtag aattttctgaa cagatggatt accttttgtc aaagcatcat ctcaaacactg    1140
act                                                                    1143

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<210>  7
<211> 20
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<213> synthetic

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<400>  7

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Pro Ala His Gly Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly
1              5              10              15

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Ser Thr Ala Pro
              20

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<210>  8
<211> 20
<212>  PRT
<213> synthetic

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<400>  8

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Val Thr Ser Ala Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro
1              5              10              15

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Pro Ala His Gly
              20

```

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<210>  9
<211> 24
<212>  DNA
<213> synthetic

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<400>  9

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gtccttgacc aggcagccca gggc

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24

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<210> 10

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<211> 23
 <212> DNA
 <213> synthetic

 <400> 10
 agcggataac aatttcacac agg 23

 <210> 11
 <211> 44
 <212> DNA
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 <400> 11
 accgcctcca ccagtgcact tgaaattgtg ctgactcagt ctcc 44

 <210> 12
 <211> 51
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 <400> 12
 accgcctcca ccgggcgcgc cttattaaca ctctcccctg ttgaagctct t 51

 <210> 13
 <211> 61
 <212> DNA
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 <400> 13
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 g 61

 <210> 14
 <211> 50
 <212> DNA
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 <400> 14
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 <210> 15

<211> 27
 <212> DNA
 <213> synthetic

<400> 15
 ggggggtggat caggcggcgg ggccta

27

<210> 16
 <211> 69
 <212> DNA
 <213> synthetic

<400> 16
 accaaagtgg atatcaaacg aggggggtgga tcaggcggcg gggccctagc acctacttca

60

agttctaca

69

<210> 17
 <211> 49
 <212> DNA
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<400> 17
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49

<210> 18
 <211> 98
 <212> PRT
 <213> synthetic

<400> 18

Glu Val Gln Leu Leu Glu Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
 1 5 10 15

Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr
 20 25 30

Ala Met Ser Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
 35 40 45

Ser Ala Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
 50 55 60

Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65 70 75 80

Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85 90 95

Ala Lys

<210> 19
<211> 100
<212> PRT
<213> synthetic

<400> 19

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
20 25 30

Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala
85 90 95

Leu Gln Thr Pro
100

<210> 20
<211> 14
<212> PRT
<213> synthetic

<400> 20

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Gly Ala Ala
1 5 10

<210> 21
 <211> 42
 <212> DNA
 <213> synthetic

<400> 21
 gaacaaaaac tcatctcaga agaggatctg aatggggccg ca

42

<210> 22
 <211> 6
 <212> PRT
 <213> synthetic

<400> 22

His His His His His His
 1 5

<210> 23
 <211> 18
 <212> DNA
 <213> synthetic

<400> 23
 catcaccatc atcaccat

18

<210> 24
 <211> 220
 <212> PRT
 <213> synthetic

<400> 24

Glu Ile Val Leu Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly
 1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser
 20 25 30

Asn Gly Tyr Thr Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Ser Gly Ser His Arg Ala Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Val Ser Gly Thr Asp Phe Thr Leu Arg Ile
 65 70 75 80
 Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Gly
 85 90 95
 Leu Gln Ser Pro Phe Thr Phe Gly Pro Gly Thr Lys Val Asp Ile Lys
 100 105 110
 Arg Gly Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp
 115 120 125
 Glu Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn
 130 135 140
 Phe Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu
 145 150 155 160
 Gln Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp
 165 170 175
 Ser Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr
 180 185 190
 Glu Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser
 195 200 205
 Ser Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys
 210 215 220

<210> 25

<211> 663

<212> DNA

<213> synthetic

<400> 25

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 tacctgcaga agccagggca gtctccacag ctctgatct attcgggttc tcatcggggc 180
 tccgggggtcc ctgacagggt cagtggcagt gtatcaggca cagattttac actgagaatc 240
 agcagagtgg aggctgagga tgttgaggtt tattactgca tgcagggtct acagagtcca 300
 ttcactttcg gccctgggac caaagtggat atcaaacgag gaactgtggc tgcaccatct 360

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gtcttcatct tcccgccatc tgatgagcag ttgaaatctg gaactgcctc tgttggtgtgc      420
ctgctgaata acttctatcc cagagaggcc aaagtacagt ggaaggtgga taacgccctc      480
caatcgggta actcccagga gagtgtcaca gacgaggaca gcaaggacag cacctacagc      540
ctcagcagca ccttgacgct gagcaaagca gactacgaga aacacaaagt ctacgcctgc      600
gaagtcaccc atcagggcct gagttcaccg gtgacaaaga gcttcaacag gggagagtgt      660
tag                                                                           663

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<210> 26
<211> 451
<212> PRT
<213> synthetic

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<400> 26

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Gln Val Gln Leu Val Gln Ser Gly Gly Gly Leu Val Gln Pro Gly Gly
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Ser Leu Arg Leu Ser Cys Ala Ala Ser Gly Phe Thr Phe Arg Ser Asn
20           25           30
Ala Met Gly Trp Val Arg Gln Ala Pro Gly Lys Gly Leu Glu Trp Val
35           40           45
Ser Gly Ile Ser Gly Ser Gly Gly Ser Thr Tyr Tyr Ala Asp Ser Val
50           55           60
Lys Gly Arg Phe Thr Ile Ser Arg Asp Asn Ser Lys Asn Thr Leu Tyr
65           70           75           80
Leu Gln Met Asn Ser Leu Arg Ala Glu Asp Thr Ala Val Tyr Tyr Cys
85           90           95
Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Asp Tyr Trp Gly
100          105          110
Gln Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser
115          120          125
Val Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala
130          135          140

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Ala Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val
145 150 155 160

Ser Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala
165 170 175

Val Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val
180 185 190

Pro Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His
195 200 205

Lys Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys
210 215 220

Asp Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly
225 230 235 240

Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met
245 250 255

Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His
260 265 270

Glu Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val
275 280 285

His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr
290 295 300

Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly
305 310 315 320

Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile
325 330 335

Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val
340 345 350

Tyr Thr Leu Pro Pro Ser Arg Asp Glu Leu Thr Lys Asn Gln Val Ser
355 360 365

Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu
370 375 380

Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro

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ccaggaagg	ggctggagt	ggtctcaggt	attagtggta	gtggtggcag	cacatactac		180
gcagactccg	tgaagggccg	gttcaccatc	tccagagaca	attccaagaa	cacgctgtat		240
ctgcaaata	acagcctgag	agccgaggac	acggccgtat	attattgtgc	gaaacatacc		300
ggggggggcg	tttgggaccc	cattgactac	tggggccagg	gaaccctgg	caccgtctca		360
agcgcccca	ccaaggggcc	atcggtcttc	ccctggcac	cctcctccaa	gagcacctct		420
gggggacac	cgccctggg	ctgcctggtc	aaggactact	tccccgaacc	ggtgacggtg		480
tcgtggaact	caggcgccct	gaccagcggc	gtccacacct	tcccggtgt	cctacagtcc		540
tcaggactct	actccctcag	cagcgtagtg	accgtgccct	ccagcagctt	gggcacccag		600
acctacatct	gcaacgtgaa	tcacaagccc	agcaacacca	aggtggacaa	gaaagttgag		660
cccaaattct	gtgacaaaac	tcacacatgc	ccaccgtgcc	cagcacctga	actcctgggg		720
ggaccgtcag	tcttctctct	ccccccaaaa	ccaaggaca	ccctcatgat	ctcccggacc		780
cctgaggtca	catgcgtgg	ggtggacgtg	agccacgaag	accctgaggt	caagttcaac		840

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tgggtacgtgg acggcgtgga ggtgcataat gccaaagacaa agccgcggga ggagcagtac      900
aacagcacgt accgtgtggt cagcgtcctc accgtcctgc accaggactg gctgaatggc      960
aaggagtaca agtgcaaggt ctccaacaaa gccctcccag ccccatcga gaaaaccatc     1020
tccaaagcca aagggcagcc ccgagaacca caggtgtaca cctgcccc atcccgggat     1080
gagctgacca agaaccaggt cagcctgacc tgcttggtca aaggcttcta tcccagcgac     1140
atcgccgtgg agtgggagag caatgggcag ccggagaaca actacaagac cagcctccc     1200
gtgctggact ccgacggctc cttcttctc tacagcaagc tcaccgtgga caagagcagg     1260
tggcagcagg ggaacgtctt ctcatgctcc gtgatgcatg aggctctgca caaccactac     1320
acgcagaaga gcctctcctt aagtccggga aaataa                                1356

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<210> 28
<211> 14
<212> PRT
<213> synthetic

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<220>
<221> PEPTIDE
<222> (1)..(14)
<223> Xaa is varied according to the disclosure

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<400> 28

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Xaa Xaa His Thr Gly Xaa Gly Val Trp Xaa Pro Xaa Xaa Xaa
1           5           10

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<210> 29
<211> 14
<212> PRT
<213> synthetic

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<400> 29

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Ala Lys His Thr Gly Arg Gly Val Trp Asp Pro Ile Gly Tyr
1           5           10

```

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<210> 30

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<211> 14
<212> PRT
<213> synthetic

<400> 30

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Lys His
1 5 10

<210> 31
<211> 14
<212> PRT
<213> synthetic

<400> 31

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Gly Tyr
1 5 10

<210> 32
<211> 14
<212> PRT
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<400> 32

Ala Ile His Thr Gly Gly Gly Val Trp Asp Pro Ile Lys Tyr
1 5 10

<210> 33
<211> 33
<212> DNA
<213> synthetic

<220>
<221> primer
<222> (1)..(33)
<223> n is varied according to the disclosure

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ggattcacgt ttagannnaa cgccatgggc tgg

33

<210> 34
<211> 39
<212> DNA

<213> synthetic

<220>

<221> primer

<222> (1)..(39)

<223> n is varied according to the disclosure

<400> 34

cacggagtct gcgtannntg tnnngccacc actaccact

39

<210> 35

<211> 90

<212> DNA

<213> synthetic

<220>

<221> primer

<222> (1)..(90)

<223> n is varied according to the disclosure

<400> 35

ctatgagacg gtgaccaggg ttccttgccc ccannnnnnn nnnnnnnnnn nnnnnnnnnn

60

nnnnnnnnnn nnnnnnacaat aatatacggc

90

<210> 36

<211> 90

<212> DNA

<213> synthetic

<220>

<221> primer

<222> (1)..(90)

<223> n=a,c,g, or t

<400> 36

ctatgagacg gtgaccaggg ttccttgccc ccagtagtca atgggggtccc aaacmnnmnn

60

mnnmnnmnnnt ttcgcacaat aatatacggc

90

<210> 37

<211> 90
 <212> DNA
 <213> synthetic

<220>
 <221> primer
 <222> (1)..(90)
 <223> n=a,c,g, or t

<400> 37
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 cccggtatgt ttcgcacaat aatatacggc 90

<210> 38
 <211> 24
 <212> DNA
 <213> synthetic

<400> 38
 tgaggagacg gtgaccaggg ttcc 24

<210> 39
 <211> 56
 <212> DNA
 <213> synthetic

<400> 39
 gtcctcgcaa ctgcggccca gccggccatg gccsaggtcc agctggtrca gtctgg 56

<210> 40
 <211> 15
 <212> PRT
 <213> synthetic

<400> 40

Pro Asp Thr Arg Pro Ala Pro Gly Ser Thr Ala Pro Pro Ala Leu
 1 5 10 15

<210> 41
 <211> 16
 <212> PRT

<213> synthetic

<400> 41

Ala	Lys	His	Asn	Thr	Ser	Lys	Val	Trp	Asp	Pro	Ile	Asp	Tyr	Trp	Gly
1				5				10						15	

<210> 42

<211> 48

<212> DNA

<213> synthetic

<400> 42

gcgaaacata atacgtctaa ggtttgggac cccattgact actggggc

48

<210> 43

<211> 16

<212> PRT

<213> synthetic

<400> 43

Ala	Lys	Ser	Ser	Thr	Thr	Thr	Val	Trp	Asp	Pro	Ile	Asp	Tyr	Trp	Gly
1				5				10						15	

<210> 44

<211> 48

<212> DNA

<213> synthetic

<400> 44

gcgaaatcta gtactacgac ggtttgggac cccattgact actggggc

48

<210> 45

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<213> synthetic

<220>

<221> PEPTIDE

<222> (1)..(16)

<223> Xaa is varied according to the disclosure

<400> 45

Ala Lys Xaa Pro Met Ala Asn Val Trp Asp Pro Ile Asp Tyr Trp Gly
 1 5 10 15

<210> 46
 <211> 48
 <212> DNA
 <213> synthetic

<400> 46
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48

<210> 47
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<220>
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 <222> (1)..(16)
 <223> Xaa is varied according to the disclosure

<400> 47

Ala Lys Xaa His Thr Lys Thr Val Trp Asp Pro Ile Asp Tyr Trp Gly
 1 5 10 15

<210> 48
 <211> 48
 <212> DNA
 <213> synthetic

<400> 48
 gcgaaatagc atacgaagac ggtttgggac cccattgact actggggc

48

<210> 49
 <211> 3
 <212> PRT
 <213> synthetic

<400> 49

Tyr Trp Gly
 1

<210> 50
 <211> 48
 <212> DNA
 <213> synthetic

<400> 50
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48

<210> 51
 <211> 16
 <212> PRT
 <213> synthetic

<400> 51

Ala	Lys	Arg	Tyr	Leu	Tyr	Asp	Val	Trp	Asp	Pro	Ile	Asp	Tyr	Trp	Gly
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<210> 52
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 <212> DNA
 <213> synthetic

<400> 52
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48

<210> 53
 <211> 16
 <212> PRT
 <213> synthetic

<400> 53

Ala	Lys	His	Thr	Gly	Gly	Gly	Thr	Leu	Gln	Arg	Leu	Asp	Tyr	Trp	Gly
1				5					10					15	

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 <212> DNA
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<400> 54
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48

<210> 55
 <211> 16
 <212> PRT
 <213> synthetic

<400> 55

Ala	Lys	His	Thr	Gly	Gly	Gly	Thr	Gln	Thr	Pro	Cys	Asp	Tyr	Trp	Gly
1				5				10						15	

<210> 56
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 <212> DNA
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<400> 56

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48

<210> 57
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 <212> PRT
 <213> synthetic

<400> 57

Ala	Lys	His	Thr	Gly	Gly	Gly	Arg	Arg	Ile	Cys	His	Asp	Tyr	Trp	Gly
1				5					10					15	

<210> 58
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 <212> DNA
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<400> 58

gcgaaacata ccgggggggg ccgtcgtatt tgtcatgact actggggc

48

<210> 59
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<220>

<221> PEPTIDE

<222> (1) .. (16)

<223> Xaa is varied according to the disclosure

<400> 59

Ala	Lys	His	Thr	Gly	Gly	Gly	Xaa	Arg	Xaa	Xaa	Arg	Asp	Tyr	Trp	Gly
1				5				10						15	

<210> 60

<211> 48

<212> DNA

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<400> 60

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<211> 16

<212> PRT

<213> synthetic

<400> 61

Ala	Lys	His	Thr	Gly	Gly	Gly	Gln	Lys	Leu	Gln	Leu	Asp	Tyr	Trp	Gly
1				5				10						15	

<210> 62

<211> 48

<212> DNA

<213> synthetic

<400> 62

gcgaaacata ccggggggggg ccagaagctg cagctggact actggggc

48

<210> 63

<211> 16

<212> PRT

<213> synthetic

<220>

<221> PEPTIDE

<222> (1)..(16)

<223> Xaa may be varied according to the disclosure to form alternate peptide

<400> 63

Ala	Xaa	His	Thr	Gly	Gly	Arg	Gly	Trp	Asp	Pro	Ile	Asp	Tyr	Trp	Gly
1				5				10						15	

<210> 64

<211> 48

<212> DNA

<213> synthetic

<400> 64

gcgtsacata cggggggggcg cggttgggac cccattgact actggggc

48

<210> 65

<211> 16

<212> PRT

<213> synthetic

<400> 65

Ala	Asn	Gln	Thr	Gly	Gly	Gly	Val	Trp	Asp	Pro	Ile	Asp	Tyr	Trp	Gly
1				5				10						15	

<210> 66

<211> 48

<212> DNA

<213> synthetic

<400> 66

gcgaaccaga ctggggggggg cgtttgggac cccattgact actggggc

48

<210> 67

<211> 16

<212> PRT

<213> synthetic

<400> 67

Ala	Arg	His	Thr	Gly	Gly	Gly	Val	Trp	Asp	Pro	Ile	Tyr	Tyr	Trp	Gly
1				5				10						15	

<210> 68

<211> 48

<212> DNA

<213> synthetic

<400> 68

gcgagacata ccggtggggg cgtktgggat cccatatact actggggc

48

<210> 69

<211> 16

<212> PRT

<213> synthetic

<400> 69

Ala	Lys	Pro	Thr	Gly	Gly	Gly	Ala	Trp	Asp	Pro	Ile	Asp	Tyr	Trp	Gly
1				5				10						15	

<210> 70

<211> 48

<212> DNA

<213> synthetic

<400> 70

gcgaaaccta ccgggggggg cgcttgggac cccattgact actggggc

48

<210> 71

<211> 16

<212> PRT

<213> synthetic

<400> 71

Ala	Lys	His	Thr	Gly	Val	Gly	Val	Trp	His	Pro	Ile	Tyr	Tyr	Trp	Gly
1				5				10						15	

<210> 72

<211> 48

<212> DNA

<213> synthetic

<400> 72

gcgaaacata ccgggggtggg cgtttggcac cccatctact actggggc

48

<210> 73

<211> 14

<212> PRT

<213> synthetic

<400> 73

Ala Lys His Thr Gly Val Gly Val Trp Asp Pro Ile Lys Tyr
1 5 10

<210> 74

<211> 14

<212> PRT

<213> synthetic

<400> 74

Ala Lys His Thr Gly Glu Gly Val Trp Asp Pro Ile Lys Tyr
1 5 10

<210> 75

<211> 14

<212> PRT

<213> synthetic

<400> 75

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Asp Lys
1 5 10

<210> 76

<211> 14

<212> PRT

<213> synthetic

<400> 76

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Gly Tyr
1 5 10

<210> 77

<211> 14

<212> PRT

<213> synthetic

<400> 77

Ala Arg His Thr Gly Gly Gly Val Trp Asp Pro Ile Gly Tyr
1 5 10

<210> 78
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<400> 78

Ser Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Gly Tyr
 1 5 10

<210> 79
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<400> 79

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Gly His
 1 5 10

<210> 80
 <211> 14
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<400> 80

Ala Lys His Thr Gly Gly Gly Val Trp Asn Pro Ile Gly His
 1 5 10

<210> 81
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<400> 81

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Leu Gly Tyr
 1 5 10

<210> 82
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<400> 82

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Leu Asp Asn
 1 5 10

<210> 83
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<400> 83

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Asn Tyr
 1 5 10

<210> 84
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<400> 84

Ala Arg His Thr Gly Gly Gly Val Trp Asp Pro Ile Asn Tyr
 1 5 10

<210> 85
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<400> 85

Ala Lys His Thr Gly Ser Gly Val Trp Asp Pro Ile Asn Tyr
 1 5 10

<210> 86
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<400> 86

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Asn Asp
 1 5 10

<210> 87
 <211> 14
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<400> 87

Ala Lys His Thr Gly Val Gly Val Trp Asp Pro Met Asn Tyr
 1 5 10

<210> 88

<211> 14

<212> PRT

<213> synthetic

<400> 88

Thr Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Asn Tyr
 1 5 10

<210> 89

<211> 14

<212> PRT

<213> synthetic

<400> 89

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Ala Tyr
 1 5 10

<210> 90

<211> 14

<212> PRT

<213> synthetic

<400> 90

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Ala Asn
 1 5 10

<210> 91

<211> 14

<212> PRT

<213> synthetic

<400> 91

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Phe Ala Tyr
 1 5 10

<210> 92

<211> 14
 <212> PRT
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<400> 92

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Met Ala Ser
 1 5 10

<210> 93
 <211> 14
 <212> PRT
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<400> 93

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Met Asp Tyr
 1 5 10

<210> 94
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<400> 94

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile His Tyr
 1 5 10

<210> 95
 <211> 14
 <212> PRT
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<400> 95

Ala Ile His Thr Gly Ala Gly Val Trp Asp Pro Ile Arg Tyr
 1 5 10

<210> 96
 <211> 14
 <212> PRT
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<400> 96

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Ser Ser

1 5 10

<210> 97
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<400> 97

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Asp Asp
 1 5 10

<210> 98
 <211> 14
 <212> PRT
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<400> 98

Val Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Val Tyr
 1 5 10

<210> 99
 <211> 14
 <212> PRT
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<400> 99

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Val Asp Tyr
 1 5 10

<210> 100
 <211> 14
 <212> PRT
 <213> synthetic

<400> 100

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Val Pro
 1 5 10

<210> 101
 <211> 14
 <212> PRT
 <213> synthetic

<400> 101

Val	Lys	His	Thr	Gly	Gly	Gly	Val	Trp	Asp	Pro	Ile	Ala	Tyr
1				5					10				

<210> 102

<211> 14

<212> PRT

<213> synthetic

<400> 102

Ala	Lys	His	Thr	Gly	Gly	Gly	Val	Trp	Asp	Pro	Ile	His	Asn
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<210> 103

<211> 14

<212> PRT

<213> synthetic

<400> 103

Ala	Lys	His	Thr	Gly	Gly	Gly	Val	Trp	Asp	Pro	Met	His	Tyr
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<210> 104

<211> 14

<212> PRT

<213> synthetic

<400> 104

Ala	Lys	His	Thr	Gly	Gly	Gly	Val	Trp	Asn	Pro	Ile	Asp	Tyr
1				5					10				

<210> 105

<211> 14

<212> PRT

<213> synthetic

<400> 105

Val	Lys	His	Thr	Gly	Gly	Gly	Val	Trp	Asp	Pro	Ile	Asp	Tyr
1				5					10				

<210> 106

<211> 14

<212> PRT
 <213> synthetic

<400> 106

Ala Lys His Thr Gly Ala Gly Val Trp Asp Pro Ile Asp Tyr
 1 5 10

<210> 107
 <211> 14
 <212> PRT
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<400> 107

Ala Gln His Thr Gly Gly Gly Val Trp Asp Pro Ile Gly Tyr
 1 5 10

<210> 108
 <211> 14
 <212> PRT
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<400> 108

Ala Lys His Thr Gly Arg Gly Val Trp Asp Pro Ile Asp Tyr
 1 5 10

<210> 109
 <211> 14
 <212> PRT
 <213> synthetic

<400> 109

Ala Lys His Thr Gly Gly Gly Val Trp Asp Pro Ile Tyr Tyr
 1 5 10

<210> 110
 <211> 66
 <212> DNA
 <213> synthetic

<400> 110

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gtacag 66

<210> 111
<211> 73
<212> DNA
<213> synthetic

<400> 111
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tggtcccagg gcc 73

<210> 112
<211> 35
<212> DNA
<213> synthetic

<400> 112
ccagtgcact ccgaaattgt gctgactcag tctcc 35